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Van Wert Soil and Water Conservation District Resources Inventory

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United States Department of Agriculture

Soil Conservation Service

Ohio

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INTRODUCTION

In 1982, the Van Wert Soil and Water Conservation District (SWCD), in cooperation with the USDA, Soil Conservation Service (SCS) took part in the National Resources Inventory (NRI). Information was collected on over 200 sample units to provide county reliable resource data.

This inventory provided natural resource data on (1) land use, (2) conservation treatment needs, (3) prime farmland, (4) potential cropland, (5) sheet and rill erosion, (6) flood prone areas, (7) wetlands, and (8) small bodies of water.

The study identifies erosion and land management problems in Van Wert County. These problems were addressed and priorities set in the District's long-range program. Top priorities include:

1. Implement an accelerated conservation tillage program to demonstrate the potential of no-till and ridge till in the District.

2. Assist the Regional Watershed Association, the Maumee Conservancy District, and the Soil Conservation Service in the implementing of the Little Auglaize, Middle Branch, and Prairie-Hoaglin Watershed projects.

3. Promote upland conservation treatment in the watersheds within the District with the following practices in order of prioroty:

   No-till/ridge till, tree planting, grassed filter strips, field windbreaks, grassed waterways, critical area stabilization, woodland-improvement, wildlife habitat, erosion control, ditch bank stabilization, farmstead windbreaks, open ditch improvement, surface drainage, subsurface drainage, ponds, and animal waste systems.

4. Work with the schools, boards of education, teachers, churches, and civic groups to promote conservation education.

5. Encourage the preservation and development of wildlife habitat and woodlands.

6. Assist in implementing the Agricultural Pollution Abatement and Urban Sediment Control Programs.

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7. Work with the county commissioners, county engineer and staff, and township trustees to promote good drainage throughout the county.

8. Promote programs for and assist with streambank erosion control, e.g., grass filter strip program.

9. Use of all news media is an integral part of all objectives, i.e., newspapers, television and radio as informative and educational tools.

This publication distributes the results of the Van Wert County Resources Inventory. The publication describes the soil resource base and highlights some problems that could reduce future soil productivity. Along with reduced production, off site damages could be expected. A primary objective of the Van Wert SWCD is to promote the wise use of the soil resource base in Van Wert County.

The information in this publication, like all information developed from a statistical study, has varying degrees of reliability or confidence levels. All values expressed here, representing over 10 percent of the county area, have a confidence level greater than 90 percent or they are at least 90 percent accurate. Smaller values, those representing less than 10 percent of the total county area, will be less than 90 percent accurate.

September 1985

Land Use

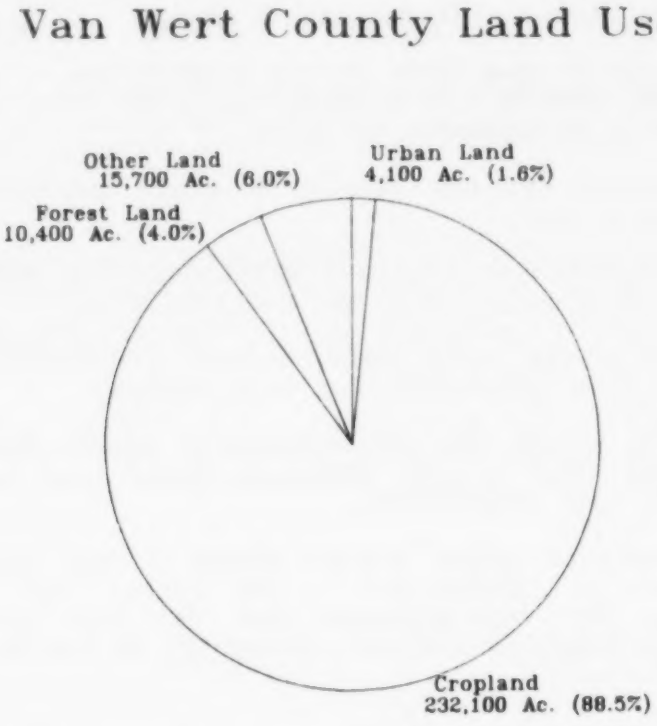
Land area measurements were made for Van Wert County during the 1980 Census by the U.S. Department of Commerce.

Table 1. Van Wert County Area Measurements

Nonfederal Land and Small Bodies of Water	262,300
Federal Land	0
Census Water (Large Bodies of Water)	300
Total Surface Area	262,600

This report addresses only nonfederal land.

Figure 1.*



TOTAL NONFEDERAL ACREAGE IN VAN WERT COUNTY = 262,300 ACRES

KEY POINT:

o Cropland is the largest land use in the county.

*Other land contains 1,500 acres of pastureland.

Land Use by Capability Class

Soils can be classified in a number of ways. SCS uses a land capability classification system that groups soils on the basis of their ability to produce common cultivated crops and pasture plants without deterioration. Land capability classes and subclasses in Van Wert County are based on the soil survey.

Capability classes are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of agricultural use.

Class III soils have severe limitations that reduce the choice of agricultural use.

Class IV soils have very severe limitations that reduce the choice of plants, or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Each capability class except Class I has subclasses to identify specific limitations. The letter "e" stands for erosion risk; "w" for wetness; and "s" for soils limited mainly because they are shallow, droughty, or stony.

Table 2. Rural Nonfederal Land Use Acreage by Capability Class and Subclass

CLASS AND SUBCLASS	CROPLAND Acres	PASTURELAND Acres	FOREST LAND Acres	OTHER RURAL LAND Acres	TOTAL
IIe	28,900	1,000	2,500	0	32,400
IIw	171,100	0	7,100	3,800	182,000
IIIe	2,800	0	0	0	2,800
IIIw	29,300	500	300	0	30,100
V	0	0	500	0	500
VIII	0	0	0	300	300
NA	0	0	0	2,300	2,300
TOTAL	232,100	1,500	10,400	6,400	250,400

KEY POINT:

- All cropland is on Classes II and III with an erosion or wetness subclass.

Prime Farmland

Prime farmland is one of several kinds of important farmlands defined by the U.S. Department of Agriculture. It is of major importance in providing the Nation's short and long range needs for food and fiber. Prime farmland soils are defined as the soils that are best suited to producing food, fiber, forage, feed, and oilseed crops. Such soils have properties that are favorable for the economic production of sustained high yields of crops. Prime farmland soils produce the highest yields with minimal inputs of energy and economic resources. Farming these soils results in the least damage to the environment.

Prime farmland is also the easiest and least costly to develop for non-agricultural uses. Urbanization and other land uses have the potential to consume significant areas of prime farmland. Decisions need to be made at the local level to encourage wise use of agricultural lands.

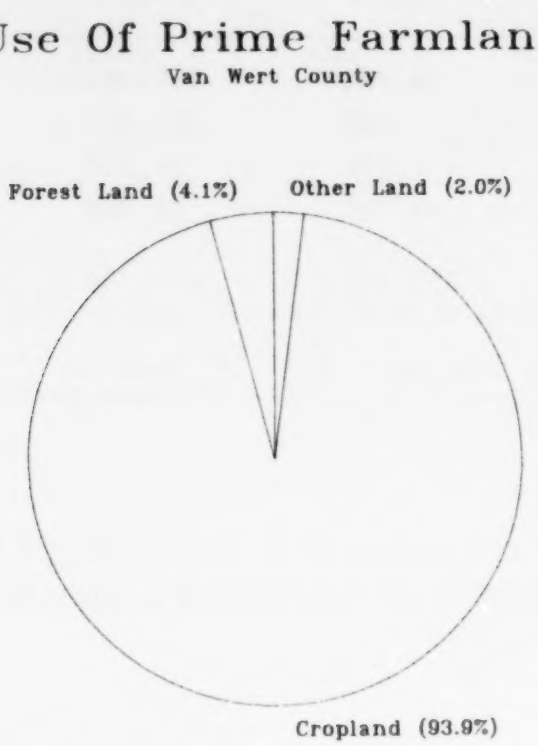
Van Wert County has about 240,000 acres of prime farmland with all of it in Capability Classes II and III.

Table 3. Prime Farmland by Rural Nonfederal Land Use

LAND USE	TOTAL ACRES	PRIME FARMLAND	
		Acres	Percent
Cropland	232,100	225,300	97
Pastureland	1,500	1,000	67
Forest Land	10,400	9,900	95
Other Land	6,400	3,800	59
TOTAL	250,400	240,000	96

Figure 2 illustrates the uses of prime farmland.

Figure 2.



KEY POINTS:

o Ninety-four percent of all prime farmland is cropland.

Soil Erosion

Soil erosion is a continuously occurring natural process that loosens and transports soil particles. Erosion occurs slowly on undisturbed forest land and areas with adequate permanent vegetative cover. Soil losses are quite high on sloping cropland that is continually cultivated and left unprotected during several months every year.

Over 648,000 tons of topsoil erode on Van Wert County agricultural land annually. Nearly 99 percent of the erosion is on cropland.

Table 4. Erosion on Nonfederal Cropland by Capability Class and Subclass

CLASS AND SUBCLASS	ACRES	TONS	TONS/ACRE
IIe	28,900	152,500	5.3
IIw	171,100	402,500	2.4
IIIe	2,800	26,200	9.4
IIIw	29,300	65,500	2.2
TOTAL	232,100	646,700	
AVERAGE			2.8

KEY POINT:

- Twenty-eight percent of all cropland erosion is on Class IIe and IIIe soils.

Soil can tolerate small amounts of erosion and remain productive for agriculture. When erosion is above this tolerable limit, the soil resource base cannot be maintained and the future ability of the soil to produce crops is threatened. The tolerable soil loss ("T") ranges from three to five tons per acre per year, with most of the soils in Van Wert County having a "T" of three.

Over 59,000 acres of cropland are eroding at rates greater than "T", with 16,000 acres eroding at rates greater than two times "T". One out of every four cropland acres is eroding excessively.

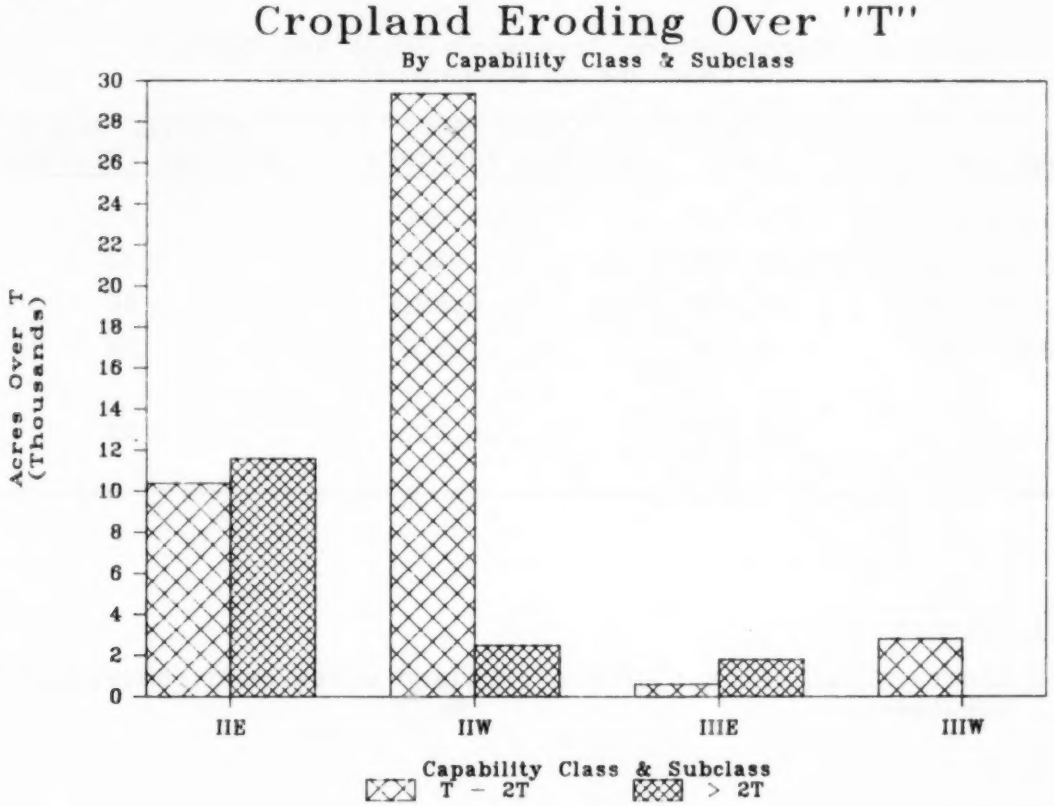
Table 5. Nonfederal Cropland in Relation to "T" by Capability Class and Subclass

CAPABILITY CLASS	TOTAL	LESS THAN "T"	"T" - "2T"	GREATER THAN "2T"
	----------ACRES----------			
IIe	28,900	6,900	10,400	11,600
IIw	171,100	139,200	29,400	2,500
IIIe	2,800	400	600	1,800
IIIw	29,300	26,500	2,800	0
TOTAL	232,100	173,000	43,200	15,900

KEY POINT:

- o Twenty-five percent of all cropland is eroding over "T".
- o Seventy-seven percent of all cropland on "e" subclass soils is eroding over "T".

Figure 3.



Conservation Treatment Needs

Many acres of Van Wert County agricultural land need one or more different types of conservation treatment to either protect or improve soil and water resources. The different conservation practices used to accomplish these objectives vary by land use.

Cropland treatment usually involves practices like conservation cropping systems, conservation tillage, grassed waterway, grade stabilization structure, subsurface drainage, and open ditch construction. Improving water quality is accomplished by installation of animal waste storage pond and management systems. Conservation practices to protect forest land include livestock exclusion, timber stand improvement, and tree planting. Areas that are critically eroding can be seeded to grasses and legumes to control erosion. Land designated as adequately protected is properly managed for production and protected from excessive erosion.

Table 6. Conservation Treatment Needs and Percent by Land Use on Nonfederal Land

LAND USE	TOTAL ACRES	TOTAL ACRES NEEDING TREATMENT	% TOTAL ACRES NEEDING TREATMENT
Cropland	232,100	225,700	97
Pastureland	1,500	1,500	100
Forest Land	10,400	8,900	86
Other Land	4,100	2,200	34
TOTAL	248,100	164,300	95

KEY POINTS:

- Ninety-seven percent of the cropland acres need conservation treatment.

SUMMARY

Agriculture accounts for 92 percent of Van Wert County land use, with 87 percent used as cropland. About 96 percent of Van Wert County is prime farmland and most of it is cropland.

The most serious erosion problems exist on cropland. Twenty-five percent of all cropland is losing soil at excessive rates. Productivity will be reduced if erosion is allowed to continue at these high rates.

Conservation treatment is needed to conserve the resource base or increase productivity on ninety-seven percent of all agricultural land.

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SOIL CONSERVATION SERVICE